L 36977-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6013361 SOURCE CODE: UR/0370/66/000/002/0102/0106

AUTHOR: Pridantsev, M. V. (Moscow); Levin, F. L. (Moscow)

ORG: none

TITLE: Relationship between the hardening and change in phase composition of high-strength dispersion-hardening nonmagnetic steel

SOURCE: AN SSSR. Izvestiya. Metally, no. 2, 1966, 102-106

TOPIC TAGS: high-strength steel, dispersion hardening, vanadium steel

ABSTRACT: The study considers certain aspects of hardening involving the determination of the quantity and composition of the hardening phases and certain characteristics of their separation during heat treatment of 25Kh17N4G15AF2 steel of the following composition: 0.23-0.30% C, 16-18% Cr, 3.5-4.5% Ni, 14-16% Mn, 0.25-0.37% N_2, 1.2-2.2% V, not more than 1.00% Si, not more than 0.03% S, and not more than 0.05% P. Dispersion hardening of this steel was found to produce high yield point values combined with satisfactory plasticity and impact resistance values. The hardening is associated with processes of separation of excess carbide and carbonitride phases, $Me_{23}C_6$, Cr_2N, and V(CN). The change in the phase composition of the steel at various stages of the heat treatment and the change in the lattice constant during aging were determined. The hardening effect is a function of the composition, quantity, and

UDC: 669.15

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ACC NR: AP6013361

relative proportions of the hardening phases, and also of the nature of their distribution and degree of dispersion. A highly favorable and decisive influence on the hardening of the steel during aging is exerted by uniformly distributed sparingly soluble vanadium carbonitrides, which hinder grain growth during heating and separate in a highly dispersed state during aging. Orig. art. has: 2 figures and 1 table.

SUB CODE: 11/ SUBM DATE: 11May65/ ORIG REF: 003

Card 2/2

PRIDANTSEV, M.V.; KAZARNOVSKIY, D.S.; DANILOV, V.N.; VEKSER, N.A.; NIKONOV, A.G.; BYKOV, N.F.

Isothermal treatment of rails. Stal' 25 no.4:358-361 Ap '65. (MIRA 18:11)

L 59271-65 EWP(k)/EWP(e)/EWA(c)/EWT(m)/EWP(b)/T/EWA(d)/EWP(t) Pf-4/Pad IJP(c)
MJW/JD/HW
ACCESSION NR: AT5016063 UR/2776/65/000/039/0139/0147

AUTHOR: Nazarov, Ye. G.; Pridantsev, M. V. 35 B+1

TITLE: Katathermal aging of KhN35VTYu alloy

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 39, 1965. Spetsial'nyye stali i splavy (Special steels and alloys), 139-147

TOPIC TAGS: alloy steel, metal mechanical property, dispersion strengthening, chemical analysis, precipitation hardening, heat treatment, metallographic examination

ABSTRACT: Strengthening effects of cooling after isothermal aging for high Ni KhN35VTYu alloy were studied, along with the effects of hot plastic deformation. A series of heat treatments were used: annealing at 1050 or 1180°C, followed by quenching either in air or water; subsequent reheating at 750°C; and finally combining prior hot plastic deformation with annealing at 1050°C and/or aging at 750°C. Mechanical properties are tabulated for the above treatments, and the results are explained in terms of structural observations made during metallographic examination

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L 59271-65

ACCESSION NR: AT5016063

and after x-ray analysis. In general, air cooling and aging are effective in raising the hardness compared to water quenching, while the use of hot plastic deformation is also effective, especially when combined with aging. Microstructures show the structural effects of some of the above treatments on grain size and precipitate distribution. Equiaxed grains were displayed by samples after hot working and air cooling, while the water quenched samples showed a distribution of grain shapes, along with the appearance of twins. A chemical analysis on the amount of the intermetallic phase present after processing indicated the effectiveness of hot working in stimulating the precipitation process. After air cooling from 1050°C, the amount of γ'-phase was 3.05%, while aging increased this to 5%. X-ray analysis of the γ'-phase indicated that it is fcc $Ni_3(Ti, Al)$. Orig. art. has: 5 figures, 6 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 008 OTHER: 002

Card 2/2

L 59272-65 EWP(k)/EWP(z)/EWA(c)/EWT(m)/EWP(b)/T/EWA(d)/EWP(w)/EWP(t) Pf-4
MJW/JD/HW
ACCESSION NR: AT5016064 UR/2776/65/000/039/0148/0154

38
36
B+1

AUTHOR: Pridantsev, M. V.; Nazarov, Ye. G.

TITLE: Effect of plastic deformation on the properties of KhN35VTYu steel

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 39, 1965. Spetsial'nyye stali i splavy (Special steels and alloys), 148-154

TOPIC TAGS: alloy steel, metal mechanical property, heat treatment, cold deformation, metallographic examination, heat resistant steel, grain size

ABSTRACT: In this study, KhN35VTYu steel was processed by combining different heat treatments with room temperature tensile deformation (to 15%). This steel contained: 0.08% C; 0.6% Mn; 0.6% Si; 12-16% Cr; 33-37% Ni; 2-4% W; 2.4-3.2% Ti; 0.7-1.5% Al; and boron additions to 0.015%. Mechanical properties (strength and ductility) are tabulated for the various treatments. These were: (a) hot working, (b) hot working plus tensile deformation at room temperature (always 0, 5, and 10%), and (c) annealing at 1080°C (8 hrs) with air cooling plus tensile deformation with subsequent aging at 750°C (16 hrs). The strength for these cases always increases with cold

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ACCESSION NR: AT5016064

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work, even after aging, although the aging treatment results in slight loss in strength over the non-aged condition. Microstructures show this to be due to large grain growth after aging. Tensile tests were also made at higher temperatures ranging from 550-750°C. The steel maintains its strength up to about 650°C, whereupon it drops 40% at 750°C. Creep tests on both notched and unnotched samples were also run for all of the above treatments. The time to failure was determined at 550, 700, and 750°C. Only in a few instances did the cold work aid in increasing creep resistance. Generally, it lowered it. Microstructural studies of this effect confirm the presence of inhomogeneous precipitation at both twin and grain boundaries. It was concluded that this reduces creep resistance and notch sensitivity in KhN35VTYu steel. Orig. art. has: 2 figures, 4 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 005 OTHER: 000

Card 2/2 KC

PRIDANTSEV, M.V., doktor tekhn. nauk, prof.; KONDRAT'YEV, A.I., inzh.

Effect of the contamination of structural, manganese-aluminum steel by magnesium on the quality of slabs. Stal' 25 no.7:644-647 Jl '65. (MIRA 18:7)

1. Institut metallurgii im. A.A.Baykova i TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii im. I.P.Bardina.

PRIDANTSEV, M.V. (Moskva)

Scientific basis for the creation of metallic materials with increased strength. Izv. AN SSSR. Met. i gor. delo no.6:3-9 N-D '64. (MIRA 18:3)

PRIDANTSEV, M.V.; STEPANOV, V.F.; TAL'YANTSEV, V.S.; TOPILIN, V.V.; VOYNOVSKIY, Ye.V.

Influence of electrical condition of a vacuum arc remelting on the extra-axial segregation in heat resistant alloys. Izv. AN SSSR. Met. i gor. delo no.6:81-85 N-D '64. (MIRA 18:3)

L 54499-65 EWT(m)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b)/EWA(c) JD
ACCESSION NR: AP5013113 UR/0370/65/000/002/0114/0119
669.017.3 : 621.78

AUTHOR: Kovalenko, O. I.; Bannykh, O. A.; Pridantsev, M. V.

TITLE: Martensite transformation in chrome, manganese, molybdenum steels

SOURCE: AN SSSR. Izvestiya. Metally, no. 2, 1965, 114-119

TOPIC TAGS: martensitic transformation, low carbon steel

ABSTRACT: It was previously shown that low carbon steels with 10% Mn and 10% Cr show a hexagonal ε phase after quenching. The aim of the present investigation was to study the simultaneous effect of carbon (0.1-0.5%) and manganese (3-9%) on this martensite transformation and on the strength properties of the respective alloys. Amounts of martensite and retained austenite were determined by the relative intensities of their respective (111)K_α lines. The quantity of retained austenite in steel containing about 0.26% C, 10% Cr and 4% Mo increases with increasing Mn: from 7-10% for 3.59% Mn to 100% for 8.2% Mn (after quenching from 1100°C) and from 2-3% for 3.59% Mn to 100% for 9.0% Mn (after quenching from 900°C). The temperature at which martensite transformation begins falls from 290°C at 3.59% Mn to 0°C

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L 54499-65
ACCESSION NR: AP5013113

at 6.8% Mn after quenching from 1100°C. Increasing carbon content was found to sharply increase the amount of retained austenite in steel containing 6% Mn, 10% Cr and 4% Mo after quenching from 1100°C. The point at which martensite transformation begins falls from 240°C at 0.12% C to 0°C at 0.38% C. Full suppression of the martensite transformation was found to require at least .42% C. Quenching from 900°C weakens the austenitizing effect of the carbon since most of it separates into carbides.

ASSOCIATION: none

SUBMITTED: 13May64 ENCL: 00 SUB CODE: MM

NO REF SOV: 004 OTHER: 002

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ALEKSEYENKO, M.F.; VASILENKO, G.I.; NATAPOV, B.S.; OREKHOV, G.N.; PRIDANTSEV, M.V.; FRANTSOV, V.P.

Case-hardenable and improved DI-2, DI-3, DI-3A (EP176), and DI-4 steel. Stal' 24 no.7:642-645 Jl '64. (MIRA 17:1)

PRIDANCEV, M.V. [Pridantsev, M.V.] (Szovjetunio)

Manufacturing high-strength metallic substances. Technika 9 no.2:2 F '65.

NAZAROV, Yu.G., kand. tekhn. nauk; PRIDANTSEV, M.V., doktor tekhn. nauk, prof.

Catathermic aging of alloys. Stal' 24 no.10:922-925 O '64.
(MIRA 17:12)

L 21869-65 EWG(j)/EPA(s)-2/EWT(m)/EWP(w)/EWA(d)/EWP(v)/EPF(c)/EPF(n)-2/EPR/T/EWP(k)/EWP(b)/EWP(t)/EPA(bb)-2 Pf-4/Pr-4/Ps-4/Pt-10/Pu-4/Pad IJP(c)/ASD(m)-3
ACCESSION NR: AP5001607 JD/WW/HW/JG/EM S/0279/64/000/006/0003/0009

AUTHOR: Pridantsev, M. V.(Moscow) B

TITLE: Scientific fundamentals for developing high-strength metallic materials

SOURCE: AN SSSR. Izvestiya. Metallurgiya i gornoye delo, no. 6, 1964, 3-9

TOPIC TAGS: metallic material, low alloy steel, heat resistant steel, oxidation resistant steel, heat resistant alloy, nickel alloy, refractory alloy, zirconium dioxide containing alloy, dispersion strengthened alloy, molybdenum alloy, tungsten alloy, zirconium containing alloy, TsM alloy

ABSTRACT: Soviet research and development work in the field of ferrous metallurgy is reviewed. This work has resulted in the development and introduction into industrial use of many new materials, such as shipbuilding steels, tube steels, low-alloy structural steels, low-nickel stainless steels, and pearlitic and austenitic stainless steels for service at temperatures up to 750C. New strengthening methods

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L 21869-65
ACCESSION NR: AP5001607

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have been developed, including dispersion strengthening and thermo-mechanical treatment. Study of the effect of alloying elements in nickel-base alloys led to the establishment of some basic laws for the development of heat-resistant alloys for discs, blades, and combustion chambers of gas turbines. Refractory alloys have been developed for service at temperatures above 1050—1100C. Molybdenum-base alloys were found to have the highest strength-to-weight ratio. An extensive study of the effect of alloying elements, charge composition, melting conditions, and deoxidation on the quality of molybdenum resulted in the development of methods for melting, forging, rolling, and extrusion of molybdenum and its alloys. A series of refractory molybdenum alloys (see Fig. 1 of the Enclosure) has been developed. The experimental plant of the Central Scientific Research Institute of Ferrous Metallurgy produces yearly 25 tons of molybdenum-alloy hot- and cold-rolled sheets, bars, forgings, and tubes. Simultaneously, silicide and chromium-nickel coatings have been developed for the protection of molybdenum alloys against high-temperature oxidation. The oxidation-resistant coatings improve greatly the rupture strength of molybdenum alloys (see Fig. 2 of the Enclosure).

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ACCESSION NR: AP5001607

The heat resistance of molybdenum- and tungsten-base alloys can be further improved by dispersion strengthening, for instance with finely dispersed zirconium dioxide (see Fig. 3 of the Enclosure). Orig. art. has: 5 figures. [MS]

ASSOCIATION: none

SUBMITTED: 15Jul64 ENCL: 03 SUB CODE: MM

NO REF SOV: 003 OTHER: 000 ATD PRESS: 3168

Card 3/6

L 21869-65
ACCESSION NR: AP5001607

ENCLOSURE: 01

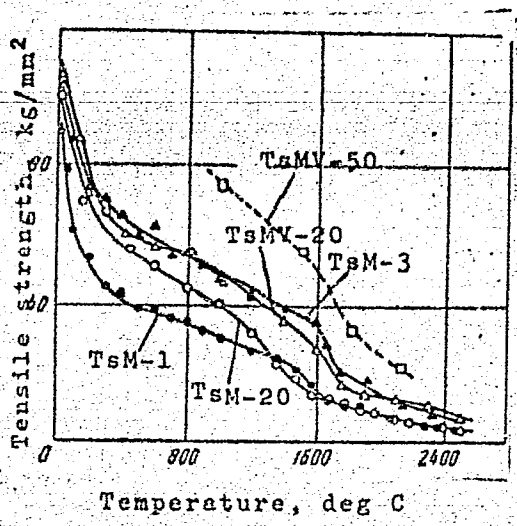

Fig. 1. Temperature dependence of tensile strength of molybdenum alloys

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L 21869-65
ACCESSION NR: AP5001607

ENCLOSURE: 02

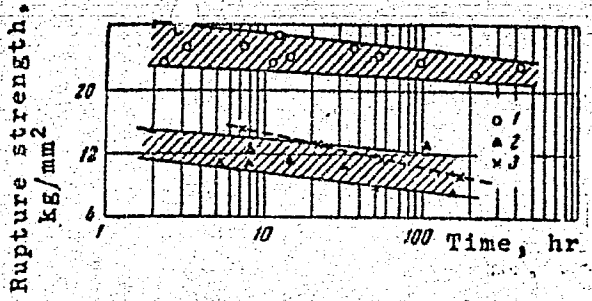

Fig. 2. Rupture strength of TsM-2A molybdenum alloy

1 - Diffusion coated; 2 - chromium-nickel plated; 3 - vacuum-tested uncoated.

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L 21869-65
ACCESSION NR: AP5001607

ENCLOSURE: 03

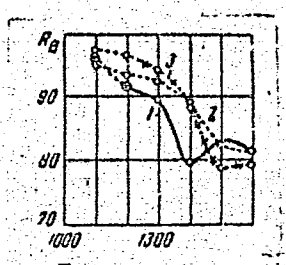

Fig. 3. Temperature dependence of hardness of molybdenum-zirconium (0.2% Zr) alloys containing 0.006% (1), 0.025% (2), and 0.010% (3) zirconium dioxide

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L 11379-65 EWT(m)/EWP(w)/EWP(t)/EWP(b) ASD(m)-3 MJW/JD/JT

ACCESSION NR: AP4041870 S/0133/64/000/007/0642/0645

AUTHOR: Alekseyenko, M. F., Vasilenko, G. I., Natapov, B. S., Orekhov, G. N., Pridantsev, M. V., Frantsov, V. P.

TITLE: Case-hardening and heat-treatable steels DI-2, DI-3, DI-3A (EP176) and DI-4

SOURCE: Stal', no. 7, 1964, 642-645

TOPIC TAGS: steel, case hardening steel, heat treatable steel, PI steel, low nickel steel, hardening temperature, tempering, steel mechanical property

ABSTRACT: The authors developed a group of low-nickel case-hardening steels which, in terms of their physical and mechanical properties, are comparable to the high-nickel steel currently used for high-stress pieces in the machine-building industry and which possess optimal properties of the case-hardened layer in finished items. The low-nickel steels DI-2 (18KhGSN2MVA) and DI-4 (18KhGSN2MA) were developed to replace steels 18Kh2N4VA and 20Kh2N 4VA, while steel DI-3A or EP176 was designed to replace steels 12KhN3A and 12Kh2N4A. The abbreviation "DI" used in connection with these newly-developed types stands for "dneprospetsstal'skaya issledovatel'skaya" or "Dneprospetsstal'

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L 11379-65

ACCESSION NR: AP4041870

Experimental". The expenditure of nickel for the new steels averages 20 - 25 kg/ton less than for the old. Steel DI-3, which does not contain molybdenum, is recommended exclusively as a replacement for type 12KhN3A steel. The molybdenum in DI-3 steel may be completely or partially substituted by tungsten in the ratio Mo : W = 1 : 3. In the development of the new types, provision was made to use the chromium-nickel-molybdenum steel scraps available in large quantities throughout the country. Particular attention was directed at the proper proportions of elements which promote and impede case-hardening. For this purpose on specially smelted low-carbon alloys, a study was made of the mutual effect of the basic alloying elements (Cr, Mn, Si, Ni, W, Mo, V) on the carbon concentration in the layer. It was discovered that the greatest effect is exerted by chromium and silicon. The permissible limits (upper and lower) of the content of the basic elements in the new steels are shown in a table. No more than 0.06% vanadium and no more than 0.03% sulfur and phosphorus is permitted in the new steels. The physical and mechanical properties of the steels were thoroughly tested. When the effect of the hardening temperature in the 800 - 950C range on the mechanical properties of the steels was tested, both DI-2 and DI-3 showed high strength and plasticity, with an optimal hardening temperature at 820 - 860C. The effect of the

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tempering temperature on the mechanical properties of type DI-2 steel was also studyies and high tempering was recommended in an interval of 530 - 600C. It was further recommended that steel DI-2 be used for air hardening in a disk to 80 mm, and with oil hardening to 150 - 200 mm. Steel DI-3A and DI-4A are recommended for sections to 80 mm, and steel DI-3 - to 40 mm. The effect of long-term high-temperature heating on the new types was found to be negligible. These steels are distinguished by fine grain, the size of which, on heating to 1,000C, remains within 7-6 units. In terms of resilience (impact ductility), the new steels are comparable to high-alloy steels and retain rather good impact toughness even at a temperature of -196C. The article indicates that the new steels are highly resistant to notching (incising). For case-hardened items which operate under conditions of variable loads, an important characteristic is the endurance limit, which for these new economical steels is equal to that of high-nickel steels. A layer-by-layer chemical analysis showed that the carbon saturation of the case-hardened layer and its depth are the same in the new steels as in the high-alloy steels, but that the content of residual austenite is smaller. A further advantage of the new steels is the higher weakening temperature during tempering, which makes it possible to recommend them for items designed to function at temperatures up to 250 - 300C. The new low-cost steels also lend themselves well to nitriding. "V. Ye. Pronin, G. Kh. Gabuyev, Yu. P. Shamil', T. M. Babkov,

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ACCESSION NR: AP4041870

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L. I. Yefremova, I. P. Banas, M. S. Kunin, G. V. Kuly*gin, Ye. L. Bushmanova, L. G. Kozy*reva, S. Z. Yudovich, P. I. Sklyarov, D. D. Tishchenko, V. M. Doronin and T. V. Levchenko also took part in the work." Orig. art. has: 1 table.

ASSOCIATION: none

SUBMITTED: 00 DATE SEL: 30Jul64 ENCL: 00

SUB CODE: MM NO REF SOV: 002 OTHER: 000

Card 4/4

STEPANOV, V. . (Moskva); [illegible], M.V. (Moskva); [illegible], N.K. (Moskva)

Extra-axial segregation of heter[illegible] in chromium-nickel alloy ingots. Izv. AN SSSR Met. i gor. delo no.2:110-114 Mr-Ap'64 (MIRA 17:8)

S/0279/64/000/003/0131/0137

ACCESSION NR: AP4040985

AUTHORS: Pridantsev, M. V. (Moscow); Levin, F. L. (Moscow)

TITLE: Austenite-ferrite steel strengthening with formation of nonmagnetic structures

SOURCE: AN SSSR. Izvestiya. Metallurgiya i gornoye delo, no. 3, 1964, 131-137

TOPIC TAGS: magnetic permeability, martensitic steel, ferritic steel, vanadium, silicon, nickel, carbon, nitrogen, alloying, heat treatment, steel/ Kh18N4G10 steel, EI 878 steel, AISI 202 steel, Kh18VN4G10 steel

ABSTRACT: The possibility of obtaining high-strength nonmagnetic steels was investigated. These steels are obtained by the decay of the ferrite component upon aging and by the subsequent formation of a σ-phase and secondary austenite in the specimen structure. A two-phase austenite-ferrite Kh18N4G10 steel was used as the test specimen. Structural changes, magnetic permeability, and mechanical properties were investigated as a function of heat treatment and alloy content. Heat treatments consisted of high-temperature quenching with cooling in water, followed by aging. Alloy materials consisted of ferrite-producing vanadium and silicon and austenite-forming nickel, carbon, and nitrogen. The degree of reinforcement was seen to decrease during aging (annealing at 400 and 700C for 50 hrs) with a decrease

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ACCESSION NR: AP4040985

in the ferrite content in the quenched structure. With a stable austenite structure, increase in strength during aging caused by the removal of the σ-phase was not observed. On the other hand, it was possible to control the magnetic permeability and the mechanical strength by heat treatment. Increasing the vanadium content from 1.2 to 4% was found to raise the magnetic permeability of the quenched specimen from 5 to 45 g/oersted. Increasing the carbon and nitrogen content was found to reduce the magnetic permeability and to improve the specimen strength. Orig. art. has: 7 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 29Apr63 ENCL: 00

SUB CODE: MM NO REF SOV: 002 OTHER: 002

Card 2/2

L 8934-65 EWT(m)/T/EWP(q)/EWP(b) MJW/JD

ACCESSION NR: AP4043920 S/0279/64/000/004/0116/0122

AUTHOR: Pridantsev, M. V. (Moscow); Levin, F. L. (Moscow)

TITLE: Strengthening nonmagnetic steel by alloying and heat treatment

SOURCE: AN SSSR. Izv. Metallurgiya i gornoye delo, no. 4, 1964, 116-122

TOPIC TAGS: stainless nonmagnetic steel, high strength nonmagnetic steel, Kh17N4G15 steel, steel strengthening, steel aging, steel alloying, steel heat treatment

ABSTRACT: To obtain an Fe-Cr-Ni-Mn steel with a yield strength higher than 80 kg/mm^2 by heat treatment without strain hardening, the effect of C, N, and V on the strength, ductility, and notch toughness of stainless Kh17N4G15-base steels has been investigated. The steels investigated contained 16.50—17.90% Cr, 3.82—4.60% Ni, 14.70—16.17% Mn, 0.02—0.43% C, 0.015—0.45% N, and 0.1—3.12% V. The heat treatment consisted of quenching from a temperature in the 1150—1200C range and subsequent aging. It was found that, as austenite-forming elements, C and N affect the steel structure in approximately the same

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L 8934-65
ACCESSION NR: AP4043920

degree. Steels without V are austenitic with the C or N content higher than 0.21%, but this amount should be increased to 0.27 and 0.37%, respectively, to preserve the austenitic structure in steels with 1—2% V. Alloying with V promotes formation of a fine-grained structure and a more uniform distribution of carbide and carbonitride phases. It slightly increases the strength characteristics of the steel and sharply increases the strengthening effectiveness of aging. The maximum strength with aging was achieved in a steel with 0.40 to 2% V. In the steel quenched from 1150C, 10-hr aging at 700C increased the tensile strength from 65 to 98 kg/mm^2 and the yield strength from 55 to 73 kg/mm^2 but decreased elongation from 25 to 12% and the notch toughness from 9.5 to 7.0 kgm/cm^2. The best combination of strength ductility, and notch toughness is achieved by combined alloying of steel with C, N, and V; moreover, substitution of N for C improves the anticorrosion properties of the steel. The steel strengthening resulting from precipitation of the excess V(CN), $Me_{23}C_6$, and Cr_2N phases with aging depends on the ratio of C, N, and V in the steel and is proportional to the amount of V. No aging is observed in steels without V. With an unfavorable combination of C, N, and V when a ferritic component is present in the steel structure, the aging results in decomposition of the ferrite with the formation of a nonmagnetic

Card 2/3

L 8934-65

ACCESSION NR: AP4043920

α-phase and secondary austenite. Orig. art. has: 6 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 26Jul64 ATD PRESS: 3109 ENCL: 00

SUB CODE: MM, IE NO REF SOV: 002 OTHER: 000

Card 3/3

L 13063-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) ASD(f)-2/AFMDC/ASD(m)-3 MJW/
JD/MLK

ACCESSION NR: AT4046843 S/0000/64/000/000/0204/0208

AUTHOR: Pridantsev, M. V.; Belikova, E. I.; Nazarov, Ye. G.

TITLE: Phase transformations in the KhN35VTYu (EI-787) alloy

SOURCE: AN SSSR. Nauchnyy sovet po probleme zharoprochnykh splavov. Issledovaniya staley i splavov (Studies on steels and alloys). Moscow, Izd-vo Nauka, 1964, 204-208

TOPIC TAGS: alloy phase transformation, stainless steel, nickel chromium steel, iron alloy, heat resistant steel, steel aging / alloy EI-787, KhN35VTYu steel

ABSTRACT: The heat resistant alloy EI-787, having an Fe-Ni-Cr base, is strengthened during aging (650-830C) by formation of an intermetallic γ' phase of the type $Ni_3(Ti, Al)$. Metallographic analysis shows that in the stressed EI-787 alloy, the needlelike γ'' phase appears after 15-20 hours at 950C, 75 hours at 900C, 750 hours at 850C and 6000 hours at 800C. The activation energy of the $\gamma' \rightarrow \gamma''$ phase transformation is 104-106 kcal./mole. Chemical analysis of anode coatings shows that as the aging temperature increases, the iron content in the γ' phase rises, especially at 830-900C. The results of X-ray analysis coincide with those of chemical analysis of the γ'' phase. This phase contains: 67% Ni, 20% Ti, 9.5% Fe, 2.5% Cr, 1.1% Al and 0.16% W. Increasing the aging temperature leads to separation

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L 13063-65
ACCESSION NR: AT4046843

of larger particles of the γ' phase and then to the appearance of particles of the new γ'' phase. In alloys on a Ni base (EI-437B, EI-445), the appearance of a needlelike η phase with a hexagonal lattice (Ni_3Ti) causes lowering of the plasticity and impact toughness, since the new phase has a lattice differing from that of the solid solution. The tabulated results of tests on alloy EI-787 show that the appearance of the needlelike phase in the coarse grain structure does not lower the plasticity and impact toughness, since the crystal lattice is unchanged. The stress-rupture strength is about 33% lower at 750C, but the time to failure at 750C and 30 kg/mm^2 is 84-369 hours, while the yield point drops slightly. The authors conclude that transformation of the metastable γ' phase into a stable phase in the EI-787 alloy depends on the temperature and duration of heating. Both gamma phases have a similar crystal lattice. The γ'' phase has a needle-laminated structure and contains an increased quantity of iron (about 9%); its chemical composition does not depend on the temperature of formation and duration of heating. Orig. art. has: 4 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 16Jun64 ENCL: 00 SUB CODE: MM

Card 2/2 NO REF SOV: 007 OTHER: 000

L 19042-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) Pad IJP(c)/ASD(m)-3 MJW/JD/HW/JC

ACCESSION NR: AP4047167 S/0133/64/000/010/0922/0925

AUTHOR: Nazarov, Ye. G. (Candidate of technical sciences); Pridantsev, N. V. (Doctor of technical sciences, Professor)

TITLE: Catathermal aging of alloys

SOURCE: Stal', no. 10, 1964, 922-925

TOPIC TAGS: iron nickel chromium alloy, heat resistant alloy, titanium containing alloy, aluminum containing alloy, alloy aging, catathermal aging, EI787 alloy, tungsten containing alloy

ABSTRACT: A new aging procedure is suggested for iron-nickel-chromium-base alloys in which decomposition of the solid solution and precipitation of the strengthening phase proceeds at a higher rate than in nickel-base alloys. In some iron-nickel-chromium-base alloys the strengthening γ'-phase precipitates during air cooling from annealing temperatures. For such alloys, catathermal aging, i.e., aging by cooling offers some advantages over the usual isothermal aging. For instance, the hardness of EI787 alloy (0.08 max C, 14—16% Cr, 33—37% Ni, 2.4—3.2% Ti, 2.8—3.5% Wo, 0.7—1.4% Al, 0.02% max B, balance

Card 1/2

L 19042-65
ACCESSION NR: AP4047167

iron) annealed at 1180C, air cooled to 700C (catathermal aging), and water quenched amounts to 270 H_B. To achieve the same hardness with alloy quenched from 1180C, isothermal aging at 700—750C for 15—18 hr is required. The effect of catathermal aging becomes more pronounced with low annealing temperatures, e.g., 1050C for EI787 alloy and low cooling rates as in furnace cooling. The method appears to be especially effective for large parts (whose cooling rates are rather low even with water quenching) which can be aged immediately after hot plastic deformation. A forged disc 700 mm in diameter and 85 mm thick, air cooled immediately after forging, had high mechanical properties, satisfactory heat resistance, and low notch sensitivity. The disc structure and hardness were uniform throughout the whole volume. Additional isothermal aging at 750C for 16 hr had little or no effect on the amount and composition of the strengthening phase. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 008 OTHER: 002 ATD PRESS: 3157

Card 2/2

S/123/59/000/010/031/068
A004/A001

Translation from: Referativnyy zhurnal, Mashinostroyeniye, 1959, No. 10, p. 116, # 38073

AUTHORS: Mishin, Ye.V., Pridantsev, S.A.

TITLE: Heat Treatment of Upsetting Tools Made of Х12Ф (Kh12F) Grade Steel

PERIODICAL: Tr. Kazansk. aviats. in-ta, 1958, Vols. 33-34, pp. 375-382

TEXT: The authors developed heat-treatment conditions for the Kh12F steel of the following composition (in %): C=1.5, Cr=11, V=0.71, Mn=0.33, Si=0.28, and P=0.02, ensuring a higher resilience. Hardening was effected at temperatures between 950 and 1,050°C with air and oil-cooling, single and triple tempering at 500°C for one hour, as well as isothermal hardening at 1,050°C with cooling in salpeter at 300°C and subsequent cooling in the furnace. The results of heat treatment were rated by the magnitude of absorbed work (A) and the torsion angle (φ) during impact torsion. The following values were obtained for the specimens after hardening at 950-970° with cooling in the air and tempering at 500°C: A = 12.94 kgm and φ = 41.25°. The highest values of absorbed work during impact

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S/123/59/000/010/031/068
A004/A001

Heat Treatment of Upsetting Tools Made of X 12 ϕ (Kh12F) Grade Steel

torsion are obtained with oil hardening at 1,150°C and triple tempering at 500°C, i.e. A = 26.9 kgm and ψ = 190°. The authors recommend the following heat-treatment conditions for impact tools made of Kh12F steel: hardening heating up to 1,150° during 1.5-2 hours (depending on the tool size), cooling in oil and triple tempering for one hour per operation at 500°C. Such a treatment ensures a hardeness of R_C 54-59 on the operating surface on the impact tool. There are 6 figures and 2 references.

P.S.M.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

FRIDANTSEV, S.A.

Nitriding of structural steels with triethanolamine and its introduction into production. Trudy KAI no.84:56-66 '64. (MIRA 18:10)

SOV/137-59-3-6425

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 212 (USSR)

AUTHORS: Mishin, Ye. V., Pridantsev, S. A.

TITLE: Comparative Investigation of Steels Employed in the Manufacture of Bolts for High-temperature Piping in Aircraft Engines (Sravnitel'nyye issledovaniya staley dlya boltov goryachikh kommunikatsiy samoleta)

PERIODICAL: Tr. Kazansk. aviats. in-ta, 1958, Vol 41, pp 55-60

ABSTRACT: In order to select the proper grades of steel employed in the manufacture of bolts for high-temperature piping service (up to 500°C) in aircraft engines, comparative investigations were conducted on steels 30KhGSA, 18KhNVA, and Kh18N11B. The following factors were determined: The value of a_k after thermal cycling, mechanical properties (σ_b, δ, ψ, a_k) at temperatures ranging from 20 to 500°, the coefficient of linear expansion, and the strength of bolts under tension in combination with skewing. It was established that steel 18KhNVA is best suited for bolts operating at elevated temperatures. It is recommended that the bolts be manufactured with a faired undercut at the beginning of the threaded portion.

T. F.

Card 1/1

ACC NR: AR6035429 SOURCE CODE: UR/0137/66/000/009/I107/I106

AUTHOR: Pridantsev, S. A.

TITLE: Concerning the accelerating action of nitrogen on the diffusion of carbon in steel during high temperature nitrocementation

SOURCE: Ref. zh. Metallurgiya, Abs. 91716

REF SOURCE: Sb. Mashinostroiteli dlya khim. i metalloobrabat. prom-sti. Kazan', 1965, 41-46

TOPIC TAGS: carbon steel, steel microstructure, nitridation, metal surface, metal diffusion, carburization, surface hardening/ St12KhN3A steel

ABSTRACT: The author determined the influence of N on the intensity of interaction of the surface of the worked metal with the gas medium and on the diffusion coefficient. Experiments have shown that under commercial manufacturing conditions, the high temperature gas nitrocementation of steel (St12KhN3A) with triethanolamine is 1.5 - 2 times faster than gas cementation with synthine, kerosene, and other liquid carburizers. Plots are presented comparing the calculated and experimental data on the depth distribution of carbon in a nitrocemented layer (nitrocementation with triethanolamine at 920° for 12 hrs) and a cemented layer (cementation with synthine at 920° for 17 hrs). Conclusions are drawn concerning the causes of the accelerating action of N on the diffusion of C in steel during nitrocementation, namely: N increases the diffusion coefficient of C and accelerates the formation of a thin surface zone of a layer with a

Card 1/2 UDC: 621.785.533: 669.15'24'26-194

ACC NR: AR6035429

diffusing-element concentration what is characteristic of the stationary equilibrium of the surface with the surrounding medium. A. Babayeva [Translation of abstract]

SUB CODE: 11

Card 2/2

L 61518-65 EWT(m)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b) MJW/JD

ACCESSION NR: AR5017259 UR/0276/65/000/006/B043/B043
621.785.533:669.15

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya. Svodnyy tom, Abs. 6B364

AUTHOR: Fridantsov, S. A.

TITLE: Nitrogen case hardening of construction steels by triethanolamine and the process of its introduction into industry

CITED SOURCE: Tr. Kazansk. avists. in-ta, vyp. 84, 1964, 56-66

TOPIC TAGS: nitrogen, case hardening, steel, ethanol, carburizing, tempering, synthol/ 25 steel, 20Kh steel, 12KhN3A steel, 18KhGT steel, 18KhNVA steel, 16KhSN steel

TRANSLATION: Results of work on gaseous nitrogen case hardening of steels 25, 20Kh, 12KhN3A, 18KhGT, 18KhNVA, and 16KhSN are presented. The properties of the nitrogen case-hardened layer are practically identical to those of a carburized layer of the same length, but the wear resistance of the diffusion layer is higher. The heat treatment of the nitrogen case-hardened details is the same as the one applied after gas carburization. High temperature tempering is

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ACCESSION NR: AR5017259 0

recommended for high-alloy steel. The working conditions are considered satisfactory from the point of view of safety. The cost of nitrogen case hardening with triethanolamine is about half as expensive as gas carburization with synthol. The process has been introduced into industry. 5 illustrations, 4 tables, bibliography of 7 entries.

SUB CODE: MM ENCL: 00

dmm

Card 2/2

NEYSHTADT, Mark Il'ich; PRIDANTSEVA, A.M., red.; MAKAROV, V.V., red.; TSYPPO, R.V., tekhn. red.

[A guide for plants of the central zone of the European part of the U.S.S.R.] Opredelitel' rastenii srednei polosy Evropeiskoi chasti SSSR; posobie dlia studentov pedagogicheskikh institutov i uchitelei. Izd.6., perer. i dop. Moskva, Uchpedgiz, 1963. 639 p. (MIRA 17:2)

S/776/62/000/025/021/025

AUTHOR: Pridantseva, K.S.

TITLE: The effect of Hafnium on the thermal expansion of Zirconium.

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov. no. 25. Moscow, 1962. Pretsizionnyye splavy. pp. 298-302.

TEXT: The paper describes an experimental investigation of the thermal expansion of Zr-based alloys with reference to the problem of the bonding of the nonmagnetic Zr-Ti-Hf alloys with ceramic substances. The immediate objective is to determine the linear expansion coefficient of Hf and to clarify its effect on the thermal expansion coefficient and the $\alpha \rightarrow \beta$ transformation temperature of Zr, since the polymorphism encountered disturbs the linear behavior of the thermal expansion (TE) of the alloy. Zr alloys with 1.1, 2.6, 7.6, and 18% Hf were tested. The specimens were obtained by arc-furnace smelting with a nonfusible W electrode in a shielding Ar atmosphere. The chemical composition of the iodide materials employed, Zr and Hf, are tabulated. Dilatometric measurements were made on Prof. P.G. Strelkov's equipment by the absolute method over a T range from 20°C to 1,000°C. The measurements were made in vacuum. It is found that an increase in

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Hf content in the Zr increases the linear TE coefficient of the alloys slightly, but the T of the inception of the $\alpha \rightarrow \beta$ transformation is increased, which results in a displacement of the deviation from linearity to higher T. The linear TE coefficient of the forged specimens of the Zr alloy with 7.6% Hf is substantially lower than that of the cast specimens throughout the entire T range covered. The alloys 7.6 and 18% Hf have similar TE coefficients up to a T of 900°C. Thus, the investigation has established a substantial identity of the TE coefficient of the Zr-Hf alloys with 7.6-18% Hf and that of the Al-Si ceramic no. 102 throughout a broad T interval (up to 900° and higher), as a result of the Hf content. There are 2 figures, 1 table, and 6 references (3 Russian-language Soviet and 3 English-language, of which the Lustman-Kerze "Metallurgy of Zr" in Russian translation).

PRIDANTSEVA, K. S.

PHASE I BOOK EXPLOITATION SOV/3940

Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Institut pretsizionnykh splavov

Pretsizionnyye splavy (Precision Alloys) Moscow, Metallurgizdat, 1959. 268 p. (Series: Its: Sbornik trudov, vyp. 22) 2,150 copies printed.

Additional Sponsoring Agency: USSR. Gosudarstvennyy planovyy komitet

Ed.: D. I. Gabrielyan; Ed. of Publishing House: Ye. I. Levit; Tech. Ed.: P. G. Islent'yeva.

PURPOSE: This collection of articles is intended for technical personnel and scientific workers in the metallurgical, instrument-manufacturing, and electrical-equipment-manufacturing industries. It may also be useful to students of schools of higher technical education.

COVERAGE: This collection of articles presents the results of studies of precision alloys made in recent years by the Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (Central Scientific Research Institute of Ferrous Metallurgy). Properties of metal alloys which can be soldered (soft or hard) with glass and ceramic materials

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PRIDANTSEVA K. S.

Precision Alloys

SOV/3940

and alloys used for making springs are discussed. Anomalies of electrical resistance and thermal expansion and the effect of irradiation on properties of alloys are considered. Problems connected with the determination of magnetic susceptibility and with rolling of bimetallic strips are reviewed. An analysis of alloys used in manufacturing high-temperature transducers and strain gages is presented. No personalities are mentioned. References follow several of the articles.

TABLE OF CONTENTS:

PRIDANTSEVA, K.S.

Effect of hafnium on the thermal expansion of zirconium. Sbor. trud. TSNIICHM no.25:298-302 '62. (MIRA 15:6)
(Hafnium--Thermal properties)
(Zirconium--Thermal properties)

PRIDANTSEVA, K.S.

Thermal expansion in heat-resistant alloys of binary systems Cr - Mo, Cr - V, Nb - Mo, Zr - Ti. Sbor.trud.TSNIICHM no.22: 18-28 '59. (MIRA 13:6)
(Heat-resistant alloys) (Expansion (Heat))

PRIDANTSEVA, K.S.

Thermal expansion of binary iron alloys with chromium and vanadium. Sbor.trud.TSNIICHM no.22:29-41 '59.
(MIRA 13:6)

(Iron-chromium alloys--Thermal properties)
(Iron-vanadium alloys--Thermal properties)

S/137/61/000/011/065/123
A060/A101

AUTHOR: Pridantseva, K. S.

TITLE: On the thermal expansion of binary alloys of iron with chromium and vanadium

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 11, 1961, 17-18, abstract 11Zh97 ("Sb. tr. Tsentr. n.-i. in-t chernoy metallurgii", 1959, no. 22, 29-41)

TEXT: Alloys of Fe-Cr and Fe-V, whose compositions were varied by 10% steps from 0 to 100% of each element were prepared from armco-Fe and pure metallic Cr or V of 96.2% purity in high-frequency induction furnaces in an argon environment. Dilatometric measurements were carried out on the specimens in the form of rods 50 mm long. It was established that the coefficient of thermal expansion α of the alloy containing 45% Cr, when brought into the equilibrium state, increases by a discontinuous jump on account of the formation of the homogeneous nonmagnetic σ-phase. In Fe-V alloys it was established that an analogous change in the coefficient α takes place as a function of the composition, but the increase in the coefficient α in these alloys is more expressed

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than in Fe-Cr alloys, inasmuch as no "pure" δ-phase had been obtained in Fe-V alloys. Hardening at a temperature at which the δ-phase dissolves leads to a sharp reduction of α in both systems and a return of the magnetic properties. The course of the dependence curves of the mean α vs alloy composition in Fe-Cr and Fe-V systems indicates that the sharpest lowering of α is observed in the ferromagnetic region at adding to the iron Cr with the V up to 30%. Beginning with 50% Cr in the alloys of the Fe-Cr system, α follows a linear dependence both in the ferromagnetic and in the paramagnetic regions. It was established that in systems Fe-Cr and Fe-V it is impossible to obtain alloys with a low α-value down to $8.0 \cdot 10^{-6}$ deg^{-1} in the region 20 - 700°C. The information as to the presence of a Curie point at -70° in the alloy with 45% V in which the δ-phase is present, was confirmed. The data obtained do not confirm the data of Mes'kin and Nekhamkin stating that the alloy with 50% Cr has a lower α than pure Cr.

V. Srednogorska

[Abstracter's note: Complete translation]

L 31872-66 EWT(l)/EWT(m)/ETC(f)/T/EWP(t)/EWP(e)/EWP(w)/ETI IJP(c) AT/WH/WW /

ACC NR: AT6013549 (A) SOURCE CODE: UR/0000/65/000/000/0041/0047

JD/JG/GD

AUTHOR: Pridantseva, K. S. (Moscow); Solov'yeva, N. A. (Moscow)

ORG: none

TITLE: Thermal expansion of solid solutions of the high melting metals of IV, V, and VI groups of the periodic system

SOURCE: AN UkrSSR. Institut problem materialovedeniya. Vysokotemperaturnyye neorganicheskiye soyedineniya (High temperature inorganic compounds). Kiev, Naukoya dumka, 1965, 41-47

TOPIC TAGS: alloy, molybdenum, chromium, niobium, vanadium, zirconium, hafnium, iron, heat expansion

ABSTRACT: The effect of temperature on the thermal expansion coefficient of binary alloys involving Mo, Cr, Nb, V, Zr, Ti, Hf and Fe in various ratios was studied in the 20-1000°C range. No maxima or minima were observed on the curves relating to alloy composition and thermal expansion coefficient, whether or not the alloys exhibited ferromagnetic anomaly or formed the α-phases. In the entire temperature

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range, a monotonic relationship was found between alloy composition and thermal expansion coefficient. The dependence of the thermal expansion coefficient upon alloy composition is shown in figure 1. The dependence of the thermal expansion coefficient of Cr-V alloys upon composition in various temperature ranges is shown in figure 2. The dependence of the thermal expansion coefficient of Nb-V alloys upon composition temperature ranges is shown in figure 3. Orig. art. has: 7 figures.

L 31872-66

ACC NR: AT6013549

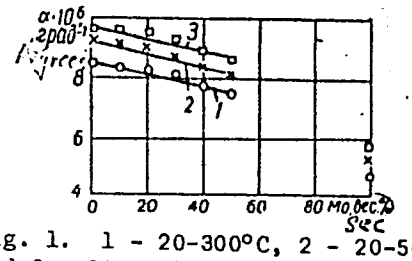

Fig. 1. 1 - 20-300°C, 2 - 20-500°C, and 3 - 20-700°C.

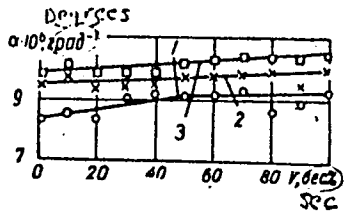

Fig. 2. 1 - 20-300°C, 2 - 20-500°C and 3 - 20-700°C; samples were calcined for 4 hrs at 1000°C.

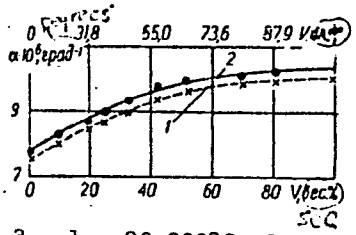

Fig. 3. 1 - 20-300°C, 2 - 20-900°C.

SUB CODE: 11/ SUBM DATE: 03Jul65/ ORIG REF: 004/ OTH REF: 001

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PRIDANTSEVA, K.S.

137-58-1-1782

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 242 (USSR)

AUTHORS: Borisova, A. K., Borodkina, M. M., Gabrielyan, D. L., Pridantseva, K. S., Solov'yeva, N. A.

TITLE: A New Alloy for Spiral Hair Springs in Clockworks (Novyy splav dlya spiral'nykh pruzhin (voloskov) chasovykh mekhanizmov)

PERIODICAL: Sb. tr. Tsentr. n.-i. in-t chernoy metallurgii, 1956, Nr 15, pp 313-344

ABSTRACT: The effect of deformation and heat treatment on the phase composition and properties of N35KhMV (I) alloy, having a small variation in modulus of elasticity (E) with temperature, were investigated by microstructural, x-ray structural, and chemical phase analysis. It was found that insignificant variations in the composition of a solid solution from the optimal, with respect to Ni and other elements, results in an increase in the variation of E with temperature. I becomes stronger after deformation and tempering due to precipitation out of the γ-solid solution of dispersed carbides $(Cr, Fe, W, Mo)_7C_3$. Without preliminary cold working aging proceeds slowly. Heat treatment of watch hair springs made of I should strictly adhere to procedure. If

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137-58-1-1782

A New Alloy for Spiral Hair Springs in Clockworks

the temperature of heat treatment of a wire 0.3 mm in diameter is increased the solid solution becomes more highly alloyed and the hair springs become embrittled. I has been adopted for mass production of hair springs. Heat treatment (at 1000°) of wire made of I in vacuum will if the shape is properly fixed, facilitate the production of high-quality hair springs at watch factories.

M. Sh

1. Helical springs--Deformation 2. Helical springs--Properties 3. Helical springs--Test methods 4. Helical springs--Test results

Card 2/2

PRIDANTSEVA, O. I.

Fertilizers and Manures

Improving hayfields and pastures by moving the cattle lot around. Korm. baza 3 No. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, September 1952/1973, Uncl.

L 14953-66 EWT(l)/EWT(m)/EWP(z)/EWP(b)/EWA(d)/EWP(w)/EWP(t) [illegible]

ACC NR: AT6003152 MJW/JD SOURCE CODE: UR/2529/64/000/084/0056/0066

AUTHOR: Pridantsev, S. A.

ORG: Kazan Aviation Institute (Kazanskiy aviatsionnyy institut)

TITLE: Nitrogen case-hardening of structural steels by means of triethanolamine, and its practical introduction to industry

SOURCE: Kazan. Aviatsionnyy institut. Trudy, no. 84, 1964. Aviatsionnaya tekhnologiya i organizatsiya proizvodstva (Aviation technology and production management), 56-66

TOPIC TAGS: case hardening, hardening, triethanolamine, nitrogen, structural steel, metallurgic furnace, thermal stability

ABSTRACT: Nitrogen case hardening of 6 steels: 25, 20Kh, 12KhN3A, 18KhGT, 18KhNVA, and 16KhSN by means of triethanolamine was studied. The experiments were carried out in a furnace of type Ts35 and Ts105, and produced data on the temperature of hardening, the flow rate of triethanolamine, the depth of hardening, and the microhardness of specimens. The effectiveness of an electrolytic copper film as a shielding agent against hardening was also studied, and wearing qualities of hardened and nonhardened specimens were compared. The economics of the process are discussed, and experimental results are presented in graphs and tables (see Fig. 1). It is stated that triethanolamine is a nontoxic, fireproof, and sootless nitrogen case-hardening agent, that the rate of hardening is 1.5--2 times higher than that of liquid carburizing

Card 1/3

L 14953-66

ACC NR: AT6003152

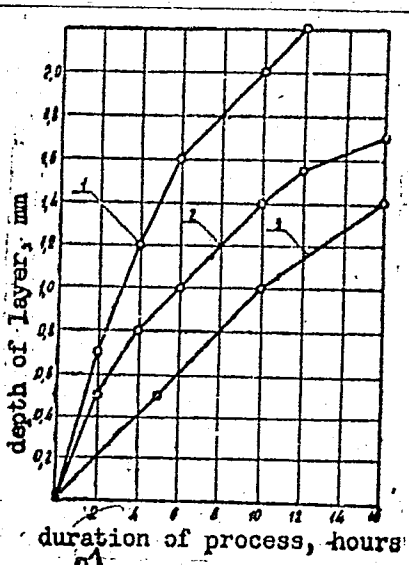

Fig. 1. Influence of the duration of the process and the nature of carburizer on the depth of the diffusion layer. (1 - triethanolamine, 2 - synthine, 3 - kerosene)

agents, and that electrolytic copper is an adequate shield against hardening. It was found that the presence of nitrogen in the hardened layer gave it a higher thermal stability than that of the carburized layers. The Scientific Research Institute for Work Safety investigated the atmospheric composition during the hardening process and found the results satisfactory. The economic analysis of the process showed that nitrogen case hardening with triethanolamine is half as expensive as the gas phase

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ACC NR: AT6003152

cementation with synthine. A. A. Tsygankov, K. A. Kovalev, M. S. Makarova, T. K. Kobelyeva, N. N. Izmaylov, S. M. Polyakov, and I. I. Martynov took part in the investigation. Orig. art. has: 4 tables and 5 graphs.

SUB CODE: 13,11/ SUBM DATE: 010ct63/ ORIG REF: 007

Card 3/3

PRIDANTSEVA, Ye.A., [illegible]; PONIKOVSKIY, V.N. (Khar'kov); GRACHEV, A.F.; VOVCHENKO, D.P., kand. biolog. nauk; CHEMODANOVA, Ye.V., kand. sel'skokhoz. nauk; KALINICHENKO, A.N.; PETRUSHOVA, N.I., kand. sel'skokhoz. nauk; OVCHARENKO, G.V.; FLORINSKAYA, G.N.; DROZDOVSKIY, B.M.; DROZDOVSKIY, E.M.; MATLASHENKO, Ye.V., aspirantka

Brief news. Zashch. rast. ot vred. i bol. 9 no.7:50-53 '64.
(MIRA 18:2)

1. Dal'nevostochnaya opytnaya stantsiya Vsesoyuznogo nauchno-issledovatel'skogo instituta rasteniyevodstva (for Grachev). 2. Mleyevskaya opytnaya stantsiya sadovodstva, Cherkasskaya oblast' (for Vovchenko). 3. Velikolukskiy sel'skokhozyaystvennyy institut (for Chemodanova). 4. Altayskaya opytnaya stantsiya sadovodstva, Barnaul (for Kalinichenko). 5. Nikitskiy botanicheskiy sad (for Petrushova, Ovcharenko). 6. Moldavskiy institut sadovodstva, vinogradarstva i vinodeliya, Kishinev (for Florinskaya). 7. Nauchno-issledovatel'skiy zonal'nyy institut sadovodstva nechernozemnoy polosy (for Drozdovskiy). 8. Tadzhikskiy nauchno-issledovatel'skiy institut sel'skogo khozyaystva (for Matlashenko).

SUKHOV, K.S.; RAZVYAZKINA, G.M.; PRIDANTSEVA, Ye.A.; BELYANCHIKOVA, Yu.V.

Studying virus diseases of grain crops. Zashch.rast.ot vred.i bol. 7 no.4:40 Ap '62. (MIRA 15:12)
(Krasnodar Territory--Grain--Diseases and pests)
(Krasnodar Territory--Virus diseases of plants)

PRIDANTSEVA, Ye.A.

Wheat dwarf virus in Krasnodar Territory. Nauch.dokl.vys.shkoly; biol.nauki no.3:153-157 '65. (MIRA 18:8)

1. Rekomendovana kafedroy entomologii Moskovskogo gosudarstvennogo universiteta.

PECHKOVSKIY, V.V.; KETOV, A.N.; MAL'TSEVA, T.G.; PRIDATCHENKOV, V.G.

Thermographic investigation of the interaction of sulfur dioxide with calcium carbonate in oxidizing atmosphere. Izv. vys.ucheb. zav.; khim. i khim. tekh. 6 no.6:991-996 '63. (MIRA 17:4)

1. Permskiy politekhnicheskiy institut, kafedra tekhnologii neorganicheskikh veshchestv.

RAZVYAZKINA, G.M.; PRIDANTSEVA, Ye.A.; SHASKOL'SKAYA, N.D.

Methods of rearing cicadas, carriers of plant disease, under artificial conditions. Nauch.dokl.vys.shkoly; biol.nauki no.4: 28-32 '62. (MIRA 15:10)

1. Rekomendovana Vsesoyuznym nauchno-issledovatel'skim institutom fitopatologii.

(INSECTS AS CARRIERS OF PLANT DISEASES)
(CICADA) (INSECTS AS LABORATORY ANIMALS)

ACC NR: AP6021578 (N) SOURCE CODE: UR/0402/66/000/003/0340/0343

AUTHOR: Pridantseva, Ye. A.; Popova, G. A.; Atabekov, I. G.

ORG: Department of Virology, Soil Biology Faculty, Moscow State University (Kafedra virusologii biologo-pochvennogo fakulteta MGU)

TITLE: Transfer of winter wheat mosaic virus to acadas by injection

SOURCE: Voprosy virusologii, no. 3, 1966, 340-343

TOPIC TAGS: virology, plant disease, virus, mosaic virus, ~~winter~~ wheat, [redacted] disease vector, cicada

ABSTRACT:
Winter wheat mosaic virus can be transferred to cicadas *Psammotettix striatus* by injection of an extract from infected leaves. Homogenates of infected cicadas were fixed in phosphotungstic acid and examined under the electron microscope. Filamentous structures 1—3 mμ long, thought to be winter wheat mosaic virus particles, were observed and photographed. [W.A. 50; CBE No. 10]

SUB CODE: 06./ SUBM DATE: 18Jun65/ ORIG REF: 006/ OTH REF: 011/

Card 1/1 UDC: 632.38:633.11]:632.727+576.858.8.095.38:576.895.727

LAVROV, N.V., akademik, doktor tekhn. nauk. Prinimali uchastiye: KARBIVNICHIY-KUZNETSOV, V.B.; SKORIK, L.D.; PRIDATKIN, A.A.; SHIKIROV, K.Sh., retsenzent; BAKLITSKAYA, A.V., red.

[Fundamentals of the combustion of gaseous fuel] Osnovy goreniia gazoobraznogo topliva. Tashkent, Izd-vo AN UzSSR, 1962. 417 p. (MIRA 18:6)

1. Sekretar' Otdeleniya tekhnicheskikh nauk AN UzbekSSR (for Lavrov).

SHALAGINOVA, A.F.; PRIDATKIN, P.P.

Experience in storing oil-rich sunflower seeds. Masl.-zhir. prom. 25 no.9:31-34 (MIRA 12:12)

1. Armavirskiy maslozhirovoy kombinat.
(Armavir--Sunflower seed)

PRIDATKO, A., inzhener.

Providing normal working conditions for the RSS-6,0 silo straw cutter. MTS 14 no.3:32 Mr '54. (MLRA 7:4)

1. Mekhanik Skraglevskoy mashino-traktornoy stantsii, Zhitomirskoy oblasti. (Straw) (Agricultural machinery)

PRIDATKO, G.D.; KRYLOVA, T.N.

Optical properties of laminar interference polarizers. Opt.-mekh. prom. [25] no.3:23-26 Mr '58. (MIRA 11:9)
(Polarization (Light))

ACC NR: AP7005614 SOURCE CODE: UR/0413/67/000/002/0052/0052

INVENTOR: Kukoz, F. I.; Pridatko, I. A.; Skalozubov, M. F.

ORG: none

TITLE: A method of obtaining grid plugs for nickel oxide electrodes of alkaline storage batteries. Class 21, No. 190447 [announced by Novocherkassk Polytechnical Institute (Novocherkasskiy politekhnicheskiy institut)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 52

TOPIC TAGS: electrode, storage battery

ABSTRACT: A method of obtaining grid plugs for nickel-oxide electrodes of alkaline storage batteries by treating metallic nickel in alkali and then oxidizing it at high temperatures is proposed. To improve the quality of products and simplify the technology of manufacture, oxidation is made to occur at a temperature of 600—650°C during 40—60 min in a dehydrated medium after the treatment in alkali. [JR]

SUB CODE: 09/0/ SUBM DATE: 25Sep65

Card 1/1 UDC: 621.355.8.035.222.4

BALITSKIY, K.P.; UMANSKIY, Yu.A.; PRIDATKO, O.Ys.

Effect of cortisone on the intracutaneous antitumor immunity. Probl. endok. i gorm. 10 no.4:82-84 Jl-Ag '64. (MIRA 18:6)

1. Laboratoriya patogeneza (rukovoditel'- kand. med. nauk K.P. Balitskiy) i laboratoriya immunologii (rukovoditel'- kand. med. nauk Yu.A. Umanskiy) Ukrainskogo nauchno-issledovatel'skogo instituta eksperimental'noy i klinicheskoy onkologii (dir.- akademik AN UkrSSR R.Ye. Kavetskiy) Ministerstva zdravookhraneniya UkrSSR, Kiyev.

BALITSKIY, K.P., kand.med.nauk; VORONTSOVA, A.L.; PRIDATKO, O.Ye.; SEREBRYANYY, S.B., doktor khim.nauk; CHERNETSKIY, V.P., kand.khim.nauk; YURGANOVA, L.G.

Anticancerous action of the preparation neocide and some of its fractions. Vrach.delo no.9:927-930 S '59. (MIRA 13:2)

1. Laboratoriya kompensatornykh i zashchitnykh funktsiy (rukovoditel' - akad. AN USSR R.Ye. Kavetskiy) Instituta fiziologii imeni A.A. Bogomol'tsa AN USSR i laboratoriya organicheskogo sinteza (rukovoditel' - akademik AN USSR A.I. Kipriyanov) Instituta organicheskoy khimii AN USSR.

(ETHANE) (CANCER)

PRIDAT'KO, I. P.

KURILENKO, P.P., veterinarnyy vrach.;KIRYUKHIN, R.A., glavnyy veterinarnyy vrach Chastinskogo rayona, Molotovskoy oblasti.;PRIDAT'KO, I.P., veterinarnyy fel'dsher.;NEMOLOVSKIY, I.K., veterinarnyy vrach.

Immobilizing swine... Veterinariia 34 no.4:72-74 Ap '57. (MLRA 10:4)

1. Beloglazovskaya rayvetlechebnitsa, Altayskiy kray (for Kurilenko). 2. Kolkhoz imeni Khrushcheva, Selidovskogo rayona, Stalinskoy oblasti (for Pridat'ko). 3. Kiyevskaya respublikanskaya vetbaklaboratoriya Ministerstva sel'skogo khozyaystva USSR (for Nemolovskiy)
(Veterinary instruments and apparatus)

BALITSKIY, K.P. [Balyts'kyi, K.P.]; IL'CHEVICH, N.V. [Il'chevych, M.V.]; PRIDATKO, O.Ye. [Prydatko, O.IU.]

Effect of decortication on arterial pressure and respiration. Fiziol. zhur. [Ukr.] 8 no.3:339-345 My-Je '62. (MIRA 15:6)

1. Laboratroiya kompensatornykh i zashchitnykh funktsiy i laboratoriya fiziologii krovoobrashcheniya i dykhaniya Instituta fiziologii im. A.A. Bogomol'tsa AN USSR, Kiyev.
(CEREBRAL CORTEX--SURGERY)
(BLOOD PRESSURE) (RESPIRATION)

BALITSKIY, K.P.; ILICHEVICH,N.V.; PRIDATKO, O.Ye.

Changes in cardiovascular and respiratory activities following decortication. Biul. eksp. biol. i med. 51 no.5:18-22 My '61. (MIRA 14:8)

1. Iz laboratorii kompensatornykh i zashchitnykh funktsiy (rukovoditel' - akademik AN USSR R.Ye. Kavetskiy) i laboratorii fiziologii krovoobrashcheniya i dykhaniya (rukovoditel' - deystvitel'nyy chlen AMN SSSR N.N.Gorev) Instituta fiziologii imeni A.A.Bogomol'tsa AN USSR (dir. - chlen-korrespondent AN USSR prof. A.F.Makarchenko), Kiyev. Predstavlena deystvitel'nym chlenom AMN SSSR N.N.Sirotininym.

(CEREBRAL CORTEX) (RESPIRATION)
(BLOOD PRESSURE)

ACC NR: AP6026746 SOURCE CODE: UR/0198/66/002/005/0139/0140

AUTHOR: Mikhaylovskiy, N. N. (Sevastopol'); Pridatko, S. A. (Sevastopol')

ORG: Sevastopol' Higher Naval Engineering School (Sevastopol'skoye Vyssheye voyenno-morskoye uchilishche)

TITLE: Pressure distribution on a wall in the area of a submerged flow

SOURCE: Prikladnaya mekhanika, v. 2, no. 5, 1966, 139-140

TOPIC TAGS: turbulent jet, pressure distribution, flow meter

ABSTRACT: An approximated method of calculating the pressure curves upon a plane wall in the area of a turbulent jet directed into a static liquid from a circular opening in the wall was developed. It was assumed that the flow beyond the turbulent jet is potential, and that the velocity component at the jet boundary is zero in the direction of the flow. The obtained empirical relationships were verified on a laboratory rig which generated jets of 10, 20, and 30 mm diameter. The average flow velocity (u) calculated from flow meter readings was $0 < u < 16$ m/sec. The obtained approximation satisfactorily reflects the pressure distribution on a plane in the area of a submerged jet and can safely be used in design calculations. Orig. art. has: 5 formulas, 2 figures.

SUB CODE: 13 20/ SUBM DATE: 09Aug65/ ORIG REF: 005

Card 1/1

TOLSTOV, Yu.G., doktor tekhn. nauk, prof.; PRIDATKOV, A.S., inzh.

Problems governing the control of autonomous current inverters.
Elektrichestvo no.11:56-59 N '65. (MIRA 18.11)

1. Moskovskiy fiziko-tekhnicheskiy institut.

SEREBRO, A. Ya., inzh.; [illegible], I.S., inzh.; [illegible], O.A., inzh.;
RUDNEVA, [illegible], kand. tekhn. nauk

Testing a mooring on pile shells. Trans. stroi. 13 no.12:
53-55 D '63 (MIRA 17:7)

RUMANIA / Chemical Technology. Chemical Products and Their Applications. Artificial and Synthetic Fibers. H-32

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 10371.

Author : Vinea, E., Pridie, A., Arvay, E.
Inst : Not given.
Title : Finishing of Articles from Highly Elastic Polyamide Fibers.

Orig Pub: Ind. textila, 1958, 9, No 4, 143-145.

Abstract: The technological process of producing highly elastic polyamide fibers, devised in the Scientific-Experimental Institute of the Rumanian Textile Industry, is described. The process consists of twisting, multiple treatments alternately by saturation with steam and in a vacuum, fixation, untwisting and double twist-

Card 1/2

RUMANIA / Chemical Technology. Chemical Products and H-32
Their Applications. Artificial and Synthetic
Fibers.

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 10371.

Abstract: ing. Steam treatments and fixation are conducted in an autoclave. Parameters of the treatment process are given for nylon and it is pointed out that in cases when the fibers derive from polycaproamide, the steam pressure should be somewhat lower. -- E. Natkhan.

Card 2/2

235

Country : RUMANIA / Chemical Technology. Chemical H
Category : Products and Their Applications -- Dyeing and Chemical Treatment of Textile Materials

Abs. Jour : [illegible]

Author : Goldstein, F.; Solomon, I.; Pridie, A.;
Institut. : Mendel, T.; Blekman, J.; Turcu, Gh.
Title : Finishing of Fabrics and Knitted Fabrics from Synthetic Fibers Mixed with Other Fibers

Orig Pub. : II-a Conf. tehn.-stiint. a ind. usoare. Textile (Bucuresti), ASIT, 1957, 285-295

Abstract : Experiments were conducted on specification of optimum conditions in bleaching and dyeing of fabrics and knitted fabrics from polyamide fibers (PF) in mixtures with rayons, cotton, and woolen fibers. The finishing of mixtures with PF can be conducted on existing equipment. Mixtures containing up to 40-50% of PF need no fixation. Dyes (D) and auxiliary materials are chosen depending on the char-

Card: 1/3

Country : RUMANIA / Chemical Technology. Chemical H
Category : Products and Their Applications -- Dyeing and Chemical Treatment of
Abs. Jour : 22490 Textile Materials

Author :
Institut. :
Title :

Orig Pub. :

Abstract : acter of the mixture and the purpose of the manufactured product. It is as yet impossible to establish general rules, since the behavior of D depends on the character of each individual mixture; therefore, before dyeing, the behavior of D is established under laboratory conditions. Addition of PF increases the durability of the material; therefore, the D used should possess the corresponding durability. In mixture with PF the purest cotton is used with a minimum of impurities, since

Card: 2/3

Country : RUMANIA / Chemical Technology. Chemical H
Category : Products and Their Applications -- Dyeing and Chemical Treatment of Textile Materials

Abs. Jour : 44460

Author :
Institut. :
Title :

Orig Pub. :

Abstract : the method of cooking under pressure used in bleaching cotton is not adapted to PF. Only sodium chloride yields satisfactory results in bleaching mixtures of cellulose fibers with PF. Bibl. 11 refs. C... Marcus

Card: 3/3

Country : RUMANIA H
Category : Chemical Technology. Chemical Products (Part 4). Dyeing and Chemical Treatment of Textile Materials
Abs. Jour. : Ref Zhur-Khim, 1959, No 7, 25869

Author : Virea, E.; Blumenfeld, M.; Pridie, A.; Arvay, E.
Institut. : -
Title : Finish of Fabrics and Knitted Fabrics Made from 100% Synthetic Polyamide Yarn

Orig Pub. : II-a Consf. tehn.-stiint. a ind. usoare. Textile (Bucuresti), ASIT, 1957, 296-301

Abstract : For articles made of synthetic polyamide fibers, the following stages are recommended for the processes of finishing: for fabrics - sorting, stabilizing, scouring, bleaching, dyeing; for knitted fabrics - sorting, doubling, scouring, dyeing, stabilizing. Practically, the stabilization is done before dyeing, in accordance with the possibilities established by the existing equipment and a limited assortment of dyes, color-fast in thermic treatment. For dyeing, dis-

Card: 1/2

Country :
Category= :

Abs. Jour. :

Author :
Institut. :
Title :

Orig. Pub. :

Abstract :persed, acid and "ofnaperl" dyes are used.-- G. Markus

Card: 2/2

H-159

Pridie, P

RUMNIA / Chemical Technology. Chemical Products and H
Their Application. Dyeing and Chemical Treat-
ment of Textile Materials.

Abs Jour: Ref Zhur-Khimiya, No 9, 1959, 33611.

Author : Goldstein, P., Pridie, A., Stefan, E.
Inst : Not given.
Title : An Investigation of Rumanian Dyes.

Orig Pub: II-a. Consf. tehn.-stiint a ind. usoare. Textile, (Bucuresti), ASIT, 1957, 320-324.

Abstract: The fundamental properties of direct, acid and chrome-tanned acid dyes, produced in Rumania and used in coloring various fibers were studied. -- G. Markus.

Card 1/1

292

PAVELESCU, I.M., dr.ing.; FRIDIE, M., ing.

Some aspects of the quality of particle board depending on the quality of raw materials. Ind lemnului 14 no.4:127-130 Ap '63.

ACC NR: AP6029012 SOURCE CODE: UR/0413/66/000/014/0010/0010

INVENTOR: Kaufman, M. Sh.; Aleshin, V. A.; Pridin, G. M.; Goncharov, V. P.; Faretskiy, M. I.; Sirotinskiy, B. S.; Soloveychik, P. M.

ORG: None

TITLE: A method for producing tubes with a wall thickness which varies with length. Class 7, No. 183696

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 10

TOPIC TAGS: metal tube, metal rolling

ABSTRACT: This Author's Certificate introduces a method for producing tubes with a wall thickness which varies with length. The method consists of varying the distance between the rollers or moving the mandrel during rolling. This method is used on cold rolling pipe mills. A tube with varying wall thickness is used instead of the blank. The thickness of the wall of this tube varies according to a law corresponding to that of the finished product. This is done in order to reduce metal pressure on the rollers and to ensure the production of tubes with a significant difference in wall thickness without cracking.

SUB CODE: 13/ SUBM DATE: 13Jul64

Card 1/1 UDC; 621.774.3.002.28

SHLYK, A.A.; MASHENKOV, V.A. [Mashankou, V.A.]; NIKOLAYEVA, G.N. [Nikalaeva, H.N.]; PRIDNIKOVA, I.V. [Prudnikava, I.V.]; KUKHTENKO, T.V. [Kukhtsenka, T.V.]

Investigating the reaction of alkaline splitting of chlorophyll method of studying the localization of tagged carbon. Vestsi AN BSSR. Ser. biial. nav. no.3:37-46 '61. (MIRA 14:10)
(CHLOROPHYLL)

RABINOVICH, P. N., PRIDOROGIN, N. L., [illegible]

Amino Acids

Preparation of *l* and *d*-α-amino acids by enzymatic hydrolysis of isopropyl esters of racemic α-amino acids; *l* and *d*-β-phenylalanine; α-and ϵ-norleucine; -and *d*-tryptophane. Dokl. AN SSSR 85 No. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. Unclassified.

PRIDOROGIN, V.

Watch over public order. Za bezop.dvizh. 5 no.11:1-2 N '62.
(MIRA 15:12)

1. Nachla'nik Otdela regulirovaniya ulichnogo dvizheniya Gosudarstvennoy avtomobil'noy inspektsii g. Moskvy.
(Traffic safety)

PRIDOROGIN, V.

Under public control. Za bezop. dvizh. 5 no.5:1-2 My '63.
(MIRA 16:6)

1. Nachal'nik Otdela regulirovaniya ulichnogo dvizheniya Gosudarstvennoy avtomobil'noy inspektsii UOOP Moskovskogo gorodskogo ispolnitel'nogo komiteta Moskovskogo gorodskogo soveta deputatov trudyashchikhsya.
(Moscow--Traffic safety)

PRIDOROGIN, V.

An amateur is behind the wheel. Za bezop.dvizh. 4 no.5:1-2 My '62. (MIRA 15:7)

1. Nachal'nik Otdela regulirovaniya ulichnogo dvizheniya i Gosudarstvennaya avtomobil'naya inspektsiya goroda Moskvy.
(Automobile drivers)

LYASHENKO, I.V.; PRIDOROGIN, V.D., inzh.; SAVENKO, Yu.F., inzh.

Rapid drifting at the "Krasnopol'e-Glubokoe" Mine. Ugol'.prom. no.3:15-19 My-Je '62. (MIRA 18:3)

1. Kommunsrskiy gornometallurgicheskiy institut. 2. Glavnyy inzh. kombinata "Luganskugol'" (for Lyashenko).

PRIDOROGIN, V.D., inzh.; CHALYY, V.I., inzh.

Organization of rapid crosscutting in mines of the Lugansk Combine. Shakht. stroi. 7 no.6:1-6 Je '63. (MIRA 16:7)

1. Luganskugol'.
(Lugansk region—Mining engineering)

ACC NR: AP7002667 SOURCE CODE: UR/0109/67/012/001/0093/0097

AUTHOR: Pridorogin, V. M.; Merkulov, K. G.

ORG: none

TITLE: Characteristics of silicon transistors operating in the anamolous small bias regime

SOURCE: Radiotekhnika i elektronika, v. 12, no. 1, 1967, 93-97

TOPIC TAGS: silicon transistor, volt ampere characteristic

ABSTRACT: The characteristics of silicon transistors operating under small bias conditions and at ambient temperature were studied. The volt-ampere characteristics (collector current vs. the base-to-emmitter voltage) for a P103 transistor (see Fig. 1.), typical for silicon transistors, were found, and approximate analytical expressions for the transistor characteristics were formulated. The anomalous volt-ampere characteristics of silicon transistors at small bias voltages are caused by changes in the diffusion current from the emitter and current resulting from generation and recombination of the collector junction—the components of the collector current. Similar volt-ampere characteristics were obtained for germanium transistors operating near the temperature of liquid nitrogen. Orig. art. has: 4 figures and 6 formulas.

Card 1/2 UDC: 621.382.3:546.28

ACC NR: AP7002667

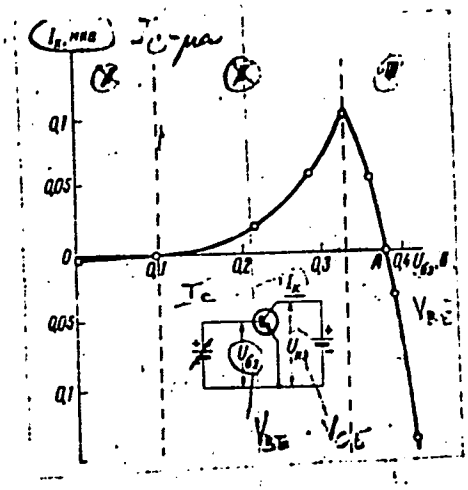

Fig. 1. Volt-ampere characteristics for a P103 silicone transistor (collector current vs base-to-emmitter voltage for Vce = 0.1 v).

SUB CODE: 09/ SUBM DATE: 10Jul65/ OTH REF: 003

Card 2/2